

## MISCELLANEOUS.

*On the Hooks on the front Edge of the hinder Wings of certain Hymenoptera.* Communicated by Dr. J. E. GRAY, F.R.S. &c.

A LADY correspondent (E. F. S.), fond of microscopic examination and entomology, has lately communicated to me some observations on the hooks on the hind wings of *Ophion* and some allied genera, and sent with them the specimens on which they were founded. They will probably be found interesting by some of the readers of the Annals:—

“ Besides the hooks which are usually described as being on the hind wing just beyond the dark spot on the front margin, there are generally to be observed one or more hooks nearer to the base of the wings than the usual row of hooks. My specimen of *Paniscus glaucopterus* has none; but, on looking at it carefully, I find in each of the two wings, just where I should expect the hook, a small mark or scar, which, being exactly like a mark on one of the wings of another *Paniscus*, I believe to be the place where the hook was, and from which it has fallen, as the fellow-wing of that *Paniscus* has a hook exactly corresponding to this mark. I suspect this hook is easily rubbed off; but the mark of its insertion (you see I am taking this for granted) is, though faint, yet permanent. Might it not be worth while to mount some of the wings which seem to have no hooks in them, and see if this mark is there?

“ In the specimen of *Hemiteles*, it cannot with propriety be called a hook, being perfectly straight.

“ I have put up three of the fore wings, which show well the turning up of the margins for the reception of the hooks in the place opposite where these two sets of hooks are situated in the hinder wing.

“ These sub-basal hooks have been observed in *Ophion*, *Pimpla varicornis*, and *P. turionellæ*, in species of the genera *Ephialtes*, *Paniscus* (*glaucopterus* and *inquinatus*), *Pimpla*, *Hemiteles*, and *Cryptus*.

“ In *Ophion obscurus* there are two sub-basal hooks; in *Ophion combustus*, three.

“ In *Paniscus* (No. 1) there is one hook, but with three or four strong, thick, short hairs on each side, more like it than the hairs in the line with them.

“ My specimen of *Paniscus glaucopterus* has none; but there is the scar of the base of one, as before stated.

“ The hinder wings of the few species I have observed show such different characters, that I will make a few observations on each of them.

“ *Ophion obscurus* has two sub-basal and eight distal curved hooks. There are eight of the transparent dots of Dr. Hicks, in the pale central part of the inosculation of the nerves of the wing, and two smaller ones in a similar situation in the lower nervules.

“ In *Ophion combustus* there are three sub-basal and seven distal

hooks, and three transparent dots in the upper and two in the lower inosculation of the nervules.

“ In *Paniscus* (No. 1) there are no sub-basal (??) and seven slightly curved distal hooks, and two transparent dots in the upper inosculation of the nervules.

“ *Paniscus glaucopterus* has one, or at least the very small scar of one sub-basal, and fifteen strong distal hooks, which are curved and furnished with an acutely recurved tip; there are numerous transparent dots in the elongate opaque stigma, and three or four similar dots in the lower inosculation.

“ *Paniscus inquinatus* has one distinct small sub-basal, and seven distal hooks.

“ Besides the difference in the number of distal hooks in the species of this genus, there is considerable difference in the form of the upper nervules at the base of the wing. In *P. inquinatus*, the front nervule is forked at the base, the two forks being far apart; the upper one is short, with the sub-basal hook at its tip; and in *P. glaucopterus* this nervule is flattened out, and the separation into two forks is very indistinct and far from the base, and the latter has a series of short, rigid, spine-like hairs in front of the series of the upper edge of the wing.

“ *Pimpla varicornis* has one sub-basal and nine distal hooks, which are slightly curved, and with a recurved apex. There is a black, rigid, nearly straight, elongate bristle in front of the series. There are two or three small transparent dots on the upper, and several also on the lower inosculation of the nervules.

“ *Ephialtes*, sp., has one nearly straight sub-basal, and six arched distal hooks; their tips are not recurved.

“ *Pimpla turionellæ* has one small, nearly straight sub-basal, and seven arched, distal, rather weak hooks.

“ *Pimpla*, sp., has one small and six rather weak, slightly curved distal hooks.

“ In *Hemiteles* the nervules are weak and rudimentary. There is only one very weak, indistinct sub-basal, and four very weak, slightly curved hooks in the distal series.

“ *Cryptus* has also rudimentary nervules, a very small, weak basal, and six very slender, curved distal hooks.

7 “ The hind wing of the genera *Ophion*, *Paniscus*, and *Pimpla*, and perhaps of the allied Hymenoptera, differs from the front one in the upper marginal nervule being forked at the base, the upper branch being short and extended to the edge of the wing; and it is on the apex of this branch that the sub-basal spine or spines are situated. The lower branch of the fork is extended to beyond the middle of the wing before it reaches the margin, and there it forms the stigma or subarticulated opaque spot; and it is on the extension of this branch just beyond the stigma that the distal series of spines are situated. The edge of the wing between the two points of the fork is thin and membranaceous.

“ The fore wings of these insects differ in the anterior nervules being simple, not forked, and forming the margin of the wing.

“ In the genera *Cryptus* and *Hemiteles*, the anterior nervule of the hinder wing is simple, and the edge of the wing to the stigma is membranaceous, or nearly so, and the weak sub-basal hook is placed on the membrane.

“ The hind wings of *Monodontomerus* have only a single longitudinal submarginal nervule, which is slightly dilated and nicked almost at the base. There are three well-developed distal hooks at the tip of the nervule, where it reaches the edge of the wing.

“ The upper wings of the larger Ichneumons, as *Ophion combustus* and *Pimpla varicornis*, have a group of ‘transparent dots’ (Dr. Hicks) at the end of the first portion of the nervule near the stigma; while the lower wings have similar transparent dots at the dilated part of the nervules, produced by their inosculation. It may also be observed that there are certain parts where the nervules are more transparent than others, as if they were partially interrupted; and these interruptions occur in the same situation in almost all the wings of the genera I have examined.”

Believing that all variations in organic structures entail a difference in the habits of the animals, I am induced to think that it is desirable that the genus *Paniscus*, which has such differently formed wings, should be divided into two groups: one, for which the name *Paniscus* may be retained, having many (about fifteen) hooks in the distal series, and a very small sub-basal one, and a thick margin to the base of the wing, of which *P. glaucopterus* may be considered the type; and the other, which have only six or seven hooks in the distal series, and a strong sub-basal hook, with thinner forked nervules to the base of the wing, may be called *Netelia*, with *Paniscus inquinatus* for its type.

I may observe at the same time, that attention to the number of spines appears to afford a ready means of distinguishing the species of this genus, which are very much alike in external appearance, and seem worthy of a more extended study.

Wesmael, Dufour, and other authors on the nerves of the wings of Hymenoptera, appear to have restricted their attention to the distribution of the nervules of the front wings; yet the hinder wings appear to offer as many characters. It is very desirable that these wings should be studied in connexion with the habits and economy of the insect, as affording characters for the separation of genera and species; for the result of the examination here given shows that the hooks and the pellucid dots in the wing afford good characters for the separation of very closely allied species, as easily described as the nervation of the upper wing itself, and quite as permanent.

Mr. Smith, to whom I have submitted the specimens, observes, with respect to the hooks which attach the posterior to the anterior wings of hymenopterous insects, &c., more particularly so in regard to those which are situated near the base of the wings, which appear to have been first observed by E. F. S., I have examined the wings of a few species in different families, and, as might be expected, with

very interesting results. I should observe that the hooks situated near the base of the wings had not previously attracted my notice, nor do I find any account of them in any of the works, such as those of Dufour or Wesmael, that I have consulted. It is well known that amongst the Hymenoptera are to be found groups which differ greatly in their power of flight: perhaps no order presents greater variation; every degree of difference is to be found between the rapid *Xylocopæ* and the lumbering and apparently helpless attempts at flight observable in sawflies, belonging to the genus *Dasytheus*. It will be obvious to every one that insects of such rapid flight as *Xylocopa* would require a stronger and more secure fastening or attachment of the wings than such insects as *Dasytheus*, which are amongst the weakest-, worst-flying insects in the entire order; and such is apparently the case. The very slight examination which I have been able to make gives the following results:—In *Xylocopa latipes* I detect 38 hooks; in species of *Dasytheus*, 7–8 and 10; in the Ichneumonidæ the numbers are usually (apparently small) 8–10, 12, &c.; but as yet I have not had an opportunity of paying sufficient attention to this very interesting subject.”

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*The Fabricius Sea Bull-Head* (*Acanthocottus Groenlandicus*).

By Sir JOHN RICHARDSON, M.D.

In the third edition of Yarrell's 'British Fishes,' recently published, mention is made of the discovery, in Dingle Harbour, of an example of this fish. A second specimen was taken, two years ago, in the basin of the South Esk, at Montrose, from a salmon-net, by William Beattie, Esq. It may therefore be considered to be more than an accidental visitant to our coast.

URIËCHIS MICROLEPIDOTUS.

*To the Editors of the Annals and Magazine of Natural History.*

Catton Hall, Norwich, March 14, 1860.

GENTLEMEN,—I request permission to correct a slight error in the account of the African snake (*Uriëchis microlepidotus*) recently presented by me to the British Museum, and described by Dr. A. Günther in your last Number.

The snake was not received by me from Algoa Bay, as stated in the above article, but from D'Urban, Port Natal, having been sent to me by Mr. Thomas Ayres, a very intelligent naturalist of that place, on whose farm the snake was ploughed up, together with the eggs which were sent with it.

I am, Gentlemen, yours, &c.,

JOHN HENRY GURNEY.